Physical Science Curriculum Support Document

Goal 1

Detailed Description of Content

COMPETENCY GOAL 1: The learner will develop abilities necessary to do and understand scientific inquiry.	
Goal 1 objectives are an *integral* part of *each of the other goals*. In order to measure and investigate scientific phenomena, students must be given the opportunity to design and conduct their own investigations in a safe laboratory. Investigations may also be conducted using simulations. See web resources for examples.	
Objective	***Content Description***
1.01 Identify questions and problems that can be answered through scientific investigations.	• Develop questions for investigation from a given topic or problem.
1.02 Design and conduct scientific investigations to answer questions about the physical world. • Create testable hypotheses. • Identify variables. • Use a control or comparison group when appropriate. • Select and use appropriate measurement tools. • Collect and record data. • Organize data into charts and graphs. • Analyze and interpret data. • Communicate findings.	• Distinguish and appropriately graph dependent and independent variables. • Report and share investigation results with others. • Discuss the best method of graphing/presenting particular data. • Use technology resources such as graphing calculators and computers to analyze data.
1.03 Formulate and revise scientific explanations and models using logic and evidence to: • Explain observations. • Make inferences and predictions. • Explain the relationship between evidence and explanation.	• Use questions and models to determine the relationships between variables in investigations.
1.04 Apply safety procedures in the laboratory and in field studies: • Recognize and avoid potential hazards. • Safely manipulate materials and equipment needed for scientific investigations.	• Read and interpret Material Safety Data Sheets (MSDS).